

IN THE CLAIMS

1. (Currently Amended) A process for relaying IP frames as PDU application frames within an ATM switch with a distributed architecture and egress storage, the ATM switch comprising a management module and plural ingress and egress junctors, the management module having a routing emulation function configured to perform IP frame routing between users of ELAN media, wherein each of the ELAN media is represented by a router LEC module, the process comprising:

offloading a frame relay function into an ATM layer of the junctors by (1) examining a first cell of ~~each of the a~~ PDU application ~~frames~~ frame arriving at an ingress junctor to extract therefrom an IP address of a destination of the PDU application frame, by (2) obtaining a first translation by searching in a cache table of a the ingress junctor for a logical path and an outbound direction opposite ~~the a-relevant~~ IP address and opposite ~~the an~~ ingress logical path, and by (3) using the first a translation ~~obtained~~ for all cells of ~~the a~~ PDU application frame, the cache table being updated by routing information originating from the routing emulation function residing in the management module; and

transmitting a request to update the cache table to the management module if the ~~sought-after~~ IP address is not located in the cache table.

2. (Currently Amended) The process according to Claim 1, ~~further comprising~~ wherein:

~~performing first and second translations, wherein~~ the first translation in each of the ingress junctors transforms (1) a first logical path number between a first user and the LEC module of the router relating to the ELAN media to which the first user belongs, and (2) the IP address of a the destination of each ~~of the~~ PDU application ~~frames~~ frame originating from

the first user applied to the ingress of a junctor into (1) an internal index number, and (2) an identifier number of an egress junctor, and ~~wherein the~~ further comprising:

performing a second translation in each of the egress junctors transforms the internal index number into a second logical path number associated in an egress junctor with a direct connection between a second user and a corresponding router LEC A module and a queue number for the egress junctor allocated to the first and second users.

3. (Previously Presented) The process according to Claim 1, further comprising:
allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passes through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.

4. (Previously Presented) The process according to Claim 2, further comprising:
allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passed through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.

5. (Currently Amended) A process for relaying IP frames as PDU application frames within an ATM switch with a distributed architecture and egress storage, the ATM switch comprising a management module and plural ingress and egress junctors, the management module having a routing emulation function ~~ensuring~~ configured to perform IP frame routing between users of ELAN media, wherein each of the ELAN media is represented by a router LEC module, the process comprising:

offloading a frame relay function into an ATM layer of the junctors by (1) examining a first cell of ~~each of the~~ a PDU application frames frame arriving at an ingress junctor to extract therefrom an IP address of a destination of the PDU application frame, ~~by obtaining a first translation by~~ searching in a cache table of a the ingress junctor for a logical path and an outbound direction opposite ~~a relevant~~ the IP address and opposite ~~an ingress an egress~~ logical path, and by (3) using a the first translation ~~obtained~~ for all cells of a the PDU application frame, the cache table being updated by routing information originating from the routing emulation function residing in the management module;

transmitting a request to update the cache table to the management module if the ~~sought-after~~ IP address is not located in the cache table; ~~and~~

performing ~~a first and second translations, wherein~~ the first translation in each of the ingress junctors ~~transforms by transforming~~ (1) a first logical path number between a first user and the LEC module of the router relating to the ELAN media to which the first user belongs, and (2) the IP address of a the destination of each of the PDU application frames frame originating from the first user applied to the ingress of a junctor into (1) an internal index number, and (2) an identifier number of an egress junctor[[,]]; and

~~wherein the~~ performing a second translation in each of the egress junctors transforms the internal index number into a second logical path number associated in an egress junctor with a direct connection between a second user and a corresponding router LEC A module and a queue number for the egress junctor allocated to the first and second users.

6. (Previously Presented) The process according to Claim 5, further comprising:
allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passed through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.

7. (Currently Amended) A process for relaying IP frames as PDU application frames within an ATM switch with a distributed architecture and egress storage, the ATM switch comprising a management module and plural ingress and egress junctors, the management module having a routing emulation function ~~ensuring~~ configured to perform IP frame routing between users of ELAN media, wherein in each of the ELAN media is represented by a router LEC module, the method comprising:

offloading a frame relay function into an ATM layer of the junctors by (1) examining a first cell of ~~each of the~~ a PDU application frames ~~frame~~ arriving at an ingress junctor to extract therefrom an IP address of a destination of the PDU application frame, by obtaining a first translation by searching in a cache table of a the ingress junctor for a logical path and an

outbound direction opposite ~~a relevant~~ the IP address and opposite an ingress logical path, and by (3) using a the first translation ~~obtained~~ for all cells of a the PDU application frame, the cache table being updated by routing information originating from the routing emulation function residing in the management module;

transmitting a request to update the cache table to the management module if the ~~sought-after~~ IP address is not located in the cache table;

allocating in each of the egress junctors a queue for each of the first and second users, wherein the second user is attached to a relevant junctor such that a direct connection between the second user and the corresponding router LEC module passes through the relevant junctor;

dynamically allocating internal indices and the egress queues in conjunction with updating of ingress translation caches; and

using a mode for arbitration in PDU mode between the queues to ensure transmission of the cells without interleaving of the PDU application frames.